

# DP (CD293A)



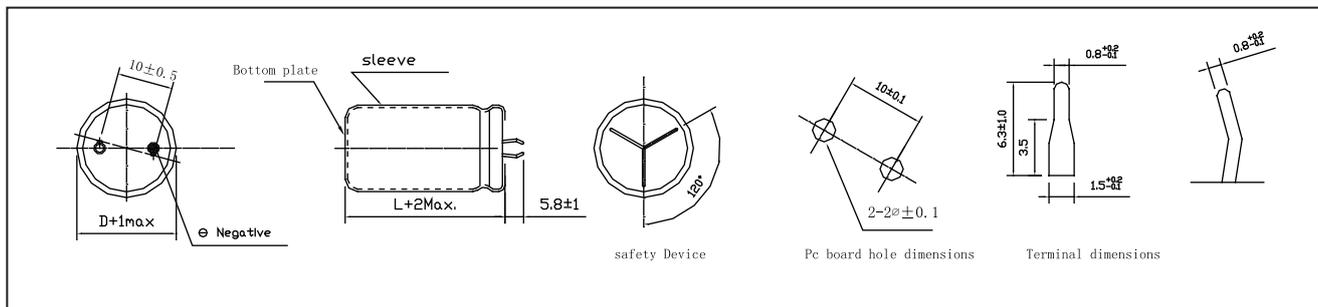
- ⊙ Snap-in, Medium and high voltage, standard.
- ⊙ used in display device, color-TV, air conditioning etc.
- ⊙ Adapted to the ROHS directive (2002/95/EC).

## Specifications

Item	Performance Characteristics																									
Operating temperature range	-40°C ~ +105°C	-25°C ~ +105°C																								
Rated voltage range	10 ~ 200 V	250V ~ 450V																								
Nominal capacitance range	39 ~ 22000μF																									
Capacitance tolerance	±20% (120Hz, +20°C)																									
Leakage current	I ≤ 0.03CV(μA) 3mA ( Whichever is smaller ) ( at 20°C,after 5 minutes)																									
(tg δ) Dissipation factor (+20°C, 120Hz)	<table border="1"> <thead> <tr> <th>U<sub>R</sub> (V)</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63~100</th> <th>160~200</th> <th>250~450</th> </tr> </thead> <tbody> <tr> <td>tg δ</td> <td>0.45</td> <td>0.35</td> <td>0.30</td> <td>0.25</td> <td>0.20</td> <td>0.15</td> <td>0.12</td> <td>0.15</td> </tr> </tbody> </table> <p>For capacitance value &gt;1000μF, add 0.02 per another 1000μF</p>		U <sub>R</sub> (V)	10	16	25	35	50	63~100	160~200	250~450	tg δ	0.45	0.35	0.30	0.25	0.20	0.15	0.12	0.15						
U <sub>R</sub> (V)	10	16	25	35	50	63~100	160~200	250~450																		
tg δ	0.45	0.35	0.30	0.25	0.20	0.15	0.12	0.15																		
Temperature characteristics (Impedance ratio at 120Hz)	<table border="1"> <thead> <tr> <th>U<sub>R</sub> (V)</th> <th>10,16</th> <th>25</th> <th>35</th> <th>50,63</th> <th>80,100</th> <th>160~200</th> <th>250~450</th> </tr> </thead> <tbody> <tr> <td>Z-25°C/Z+20°C</td> <td>4</td> <td>3</td> <td>3</td> <td>2</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td>Z-40°C/Z+20°C</td> <td>15</td> <td>10</td> <td>8</td> <td>6</td> <td>5</td> <td>6</td> <td>-</td> </tr> </tbody> </table>		U <sub>R</sub> (V)	10,16	25	35	50,63	80,100	160~200	250~450	Z-25°C/Z+20°C	4	3	3	2	2	3	4	Z-40°C/Z+20°C	15	10	8	6	5	6	-
U <sub>R</sub> (V)	10,16	25	35	50,63	80,100	160~200	250~450																			
Z-25°C/Z+20°C	4	3	3	2	2	3	4																			
Z-40°C/Z+20°C	15	10	8	6	5	6	-																			
Load life	After applying rated voltage with specified ripple current for 1000 hours at +105°C and then resumed 16 hours: Capacitance change : ±20% Initial measured value Leakage current : ≤ Initial specified value Dissipation factor : ≤ 2 times Initial specified value																									
Shelf life	After storage for 1000 hours at +105°C, U <sub>R</sub> to be applied for 30 minutes and then resumed 16 hours Capacitance change : ±20% Initial measured value Leakage current : ≤ Initial specified value Dissipation factor : ≤ 2 times Initial specified value																									

## Case size table

Unit: mm



## ◇ Coefficient of allowable ripple current

U (V) \ (Hz)	50	100(120)	1K	10K	20K
10 ~ 50	0.88	1	1.0	1.15	1.15
63 ~ 100	0.81	1	1.16	1.30	1.33
160 ~ 450	0.707	1	1.20	1.50	1.55

(°C)Temperature	+40	+55	+70	+85	+105
Coefficient	2.7	2.5	2.1	1.7	1

**Dimensions**

Cap.( $\mu$ F)	Code	$U_R$		10V		16V		25V		35V		50V		63V		100V		
		$U_S$		13V		20V		32V		44V		63V		79V		125V		
		DxL	(A)	DxL	(A)	DxL	(A)	DxL	(A)	DxL	(A)	DxL	(A)	DxL	(A)	DxL	(A)	
390	391															22x25	0.64	
560	561															22x30	0.80	
																25x25	0.80	
680	681															22x35	0.92	
																25x30	0.92	
820	821													22x25	0.92	22x40	1.0	
																30x25	1.0	
1000	102															25x35	1.1	
																30x30	1.2	
																35x25	1.3	
1200	122										22x25	0.96	22x30	1.2	22x50	1.3		
													25x25	1.1	30x35	1.4		
																35x30	1.4	
1500	152													22x35	1.3	25x50	1.5	
													35x30	1.3	30x40	1.6		
													30x25	1.4	35x35	1.8		
1800	182										22x30	1.2	22x40	1.5				
											25x25	1.2	25x35	1.5				
													30x25	1.5				
2200	222								22x25	1.1	22x35	1.4	22x50	1.7	30x50	2.0		
													30x30	1.7	35x40	2.0		
														35x25	1.8			
2700	272							22x30	1.3	22x40	1.6	30x35	2.0	35x50	2.3			
3300	332					22x25	1.3	25x25	1.3	25x35	1.6	25x50	2.2					
										30x30	1.8	30x40	2.3					
											35x25	1.8						
4700	472			22x25	1.4	22x30	1.6	22x40	1.9	30x35	2.3	30x50	2.8					
						25x25	1.6	30x25	1.9	35x30	2.4	35x40	2.9					
5600	562					22x35	1.8	25x35	2.0	25x50	2.5							
						25x30	1.8	30x30	2.1	30x40	2.5							
								35x25	2.2	35x35	2.7							
6800	682	22x25	1.5	22x30	1.8	22x40	2.0	22x50	2.4	30x50	2.9	35x50	3.6					
				25x25	1.8	30x25	2.0	25x40	2.3	35x40	3.0							
8200	822	25x25	1.7	22x35	2.0	25x35	2.2	25x50	2.7									
						30x30	2.3	30x35	2.9									
						35x25	2.4	35x30	2.8									
10000	103	22x30	1.9	22x40	2.3	22x50	2.6	30x40	3.0	35x50	3.8							
				30x25	2.3	25x40	2.6	30x40	3.0									
				25x30	2.2													
12000	123	22x35	2.1	25x35	2.5	25x50	2.9	30x50	3.4									
		25x35	2.1	30x30	2.6	30x35	2.9	35x40	3.5									
		30x25	2.2	35x25	2.7	35x30	3.0											
15000	153	22x40	2.5															
		25x50	2.5	22x50	2.9	30x40	3.3											
		35x25	2.5	25x40	2.9	35x35	3.5											
18000	183	22x50	2.8	25x50	3.3													
		25x40	2.8	30x35	3.3	30x50	3.8	35x50	4.5									
		30x30	2.8	35x30	3.4	35x40	3.9											
22000	223	30x35	3.2	30x40	3.7													
		35x30	3.3	35x35	3.9													

\_\_\_\_\_ Rated ripple current (+105°C, 120Hz)

High-Power

■ **Dimensions**

ØD × L(mm)

Cap. (µF)	Code	160V(2C)		200V(2D)		250V(2E)		400V(2G)		450V(2w)	
		200		250		300		450		500	
		D×L	(A)								
39	390							22×25	0.32		
56	560							22×30	0.39	22×25	0.70
								25×25	0.40		
68	680							22×35	0.45		
								25×30	0.46		
82	820							22×40	0.51	22×30	0.83
								30×25	0.53		
100	101					22×25	0.45	25×35	0.57	22×35	0.93
								30×30	0.61		
								35×25	0.65		
120	121							22×50	0.64	22×40	1.04
								25×40	0.63		
150	151					22×30	0.58	25×50	0.75	22×50	1.19
						25×25	0.58	30×35	0.77		
								35×30	0.83		
180	181	22×25	0.65	22×25	0.65	22×35	0.65	30×40	0.87		
								35×35	0.93		
220	221			22×30	0.75	22×40	0.75	30×50	1.0	25×50	1.55
				25×25	0.75	25×30	0.73	35×40	1.1		
						30×25	0.77				
270	271	22×30	0.83	22×35	0.86	25×35	0.83			30×45	1.78
		25×25	0.82			30×30	0.88				
						35×25	0.93				
330	331	22×35	0.94	25×30	0.96	22×50	0.96			35×45	2.01
		22×40	1.24	30×25	1.0	25×40	0.95				
390	391	25×30	1.0	22×40	1.1	30×35	1.1	35×50	1.3	35×50	2.24
		22×40	1.1	25×35	1.1	35×30	1.2				
		30×25	1.1	35×25	1.2						
470	471	25×35	1.2	22×50	1.2	25×50	1.2			35×50	2.53
		35×25	1.3	25×40	1.2	30×40	1.2				
				30×30	1.2	35×35	1.3				
560	561	22×50	1.3	30×35	1.4	30×50	1.4				
		25×40	1.3	35×30	1.5	35×40	1.5				
		30×30	1.3								
680	681	25×50	1.5	25×50	1.5						
		35×30	1.6	30×40	1.6						
820	821	25×50	1.7	35×35	1.8	35×50	1.9				
		30×40	1.7								
		35×35	1.8								
1000	102	30×50	2.1	30×50	2.0						
		35×40	2.0	35×40	2.1						
1200	122			35×50	2.4						
1500	152	35×50	2.6								

Rated ripple current ( +105°C, 120Hz)